

MAY, 1908

Issued Every Month
for Free Distribution to all Users
of Machine Tools

HITCHCOCK'S MACHINE TOOL LIST

A Reference Book for Buyers
of Iron Working Machinery

Published by
A. H. HITCHCOCK
626-628 Monarch Block
Chicago

WHIRLED TO DEATH

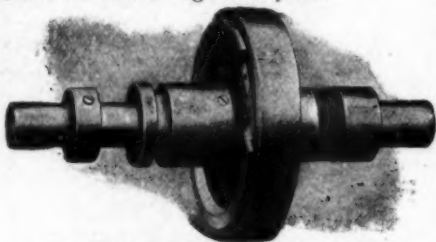
Boy Instantly Killed in Fast Revolving Shafting

John Myers, twenty-three, of Falmouth, who had been boarding at 1425 Spring Street, Covington, was caught in the shafting of a machine he was oiling at the C. & O. shops Thursday. He was whirled to the ceiling and instantly killed in the fast revolving shafting. Coroner W. W. Tarvin viewed the remains and rendered a verdict of accidental death. The body will be shipped to Falmouth for burial.—*From Cincinnati Times-Star, April 10, 1908.*

That happens every day—somewhere. It may happen in your shop. It might be you.

IT CAN'T HAPPEN WITH THE NUGENT CLUTCH

This is not saying anything about other clutches, with triggers, levers and fingers. They will have to do their own talking—if they can.



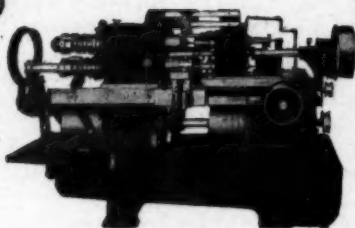
Look at that smooth face—NO DANGER

—ASK—

THE CINCINNATI IRON & STEEL CO.

CINCINNATI, O., for Price List No. 3

(The Nugent Tool Co., Builders)



THE PROBLEM

of obtaining Quantity, combined
with Accuracy and Economy, in
the manufacture of *duplicate
parts from the bar*, is solved
by the use of

THE ACME AUTOMATIC MULTIPLE SPINDLE SCREW MACHINE



The National-Acme Mfg. Co.
Cleveland, : : : Ohio

BRANCH OFFICES

New York Boston Chicago Atlanta

WAREHOUSES

New York : Chicago

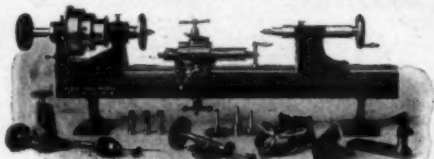
GEN. FOREIGN REPRESENTATIVES

Schuchardt & Schutte : Alfred H. Schutte



A Precision Bench Lathe

*Unequalled for Tool Room, Experimental,
Jig, Die and Fine Machine Work—7x32 in.*



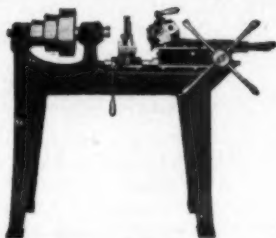
Made of the best material, with the highest grade of workmanship; spindles and bearings of tool steel, hardened and ground; every adjustment for convenience of operator and to facilitate work; bed is very rigid, and is scraped to standards. Furnished with or without improved countershaft, which can be placed on the wall or in front of window without an unsightly plank.

Also an excellent line of attachments for these lathes, our milling and grinding tools being special designs of unusual merit. Let us mail you complete description.

What is your name and address? Ours is

The Elgin Tool Works, Elgin, Ill.

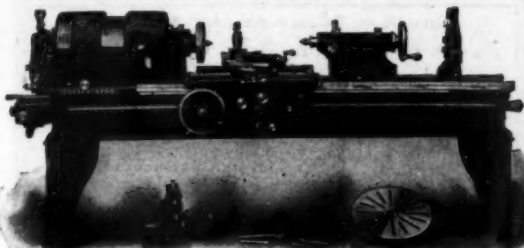
THE TILTED TURRET



**13-inch Plain Monitor for Brass Work
Swings Box Tool 8 in. in Diameter**

WOOD TURRET MACHINE CO.

TERRE HAUTE, : : INDIANA



THE MANY LATHE FEATURES OF
The Patent Head Lathe
 GIVE IT AN INDIVIDUALITY OF ITS OWN

We do not know for what class of work you expect to get that new lathe, but we do know the **Patent Head Lathe**, and can show you where it will be a money maker for you. We call your attention to some features that have made possible more lathe work with fewer lathes.

Accuracy: Plain surfaces, requiring fitting, are scraped to surface plates, and spindles, important studs and all revolving parts are fitted by grinding. Every gear on the lathe is cut with its individual cutter. All belt pull taken from the spindles.

Convenience: Eighteen speeds in geometrical progression; thirty-two feeds; thirty-two threads, with no gears to change; length and cross feeds, with reverse at apron; impossible to engage feeds and lock nuts at the same time. Double back gears, giving power and proper surface speed on work of all diameters. Six of the eighteen speed changes made through shifter; spindle and back bearings automatically lubricated.

Strength: Great depth and rigidity of internally braced lathe bed. Ledge (steel strip shown at front of bed) supporting rack pinion in apron. Massive spindle bearings of great length and rigidity. Broad faced headstock gearing for driving heavy cuts at slow speeds. All steel feed gearing.

Power: Large diameter driving pulley, carrying a broad belt that gives from two to three times more power per revolution than any cone type lathe of the same swing can deliver.

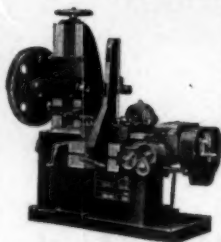
14 inch to 48 inch swing.

Our Catalogue "S" tells the whole story

THE LODGE & SHIPLEY MACHINE TOOL CO.
 CINCINNATI, O., U. S. A.

Another "Cincinnati" Success A NEW GEAR CUTTER

of Exceptional Effectiveness and Economy



The direct drive, through one pulley, running at a constant speed, gives this machine unusual power at the cutter, and as a result it eats up gear blanks with surprising rapidity. At the same time, the simplicity of its adjustments and the variety of its feeds and speeds, all obtained by transposing gears, conveniently located and handled, make it easy to manipulate and insure exactly the proper conditions in the tool for the best and cheapest work. It has the "Cincinnati" quality of construction, which

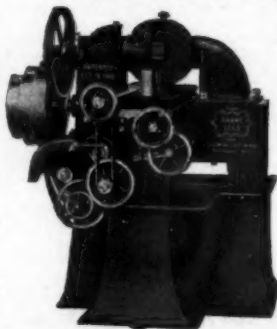
is a guarantee of its accuracy and durability.

Our circular shows front and rear views and describes tool in detail. May we send one?

THE CINCINNATI SHAPER CO.

Colerain Ave. & Elam St., CINCINNATI, O.

GRANT-LEES SPUR, SPIRAL AND WORM GEAR GENERATOR



It is the most rapid machine.

It is the most universal machine.

It produces always uniform gears and QUIET GEARS.

Ask for description and cutting times

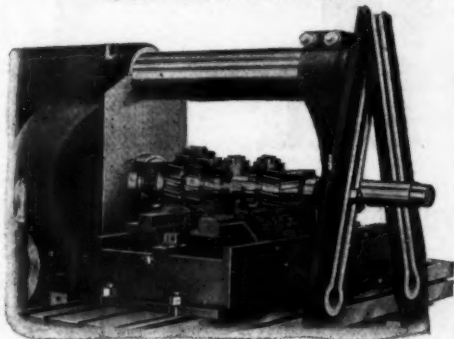
**THE GRANT-LEES
MACHINE CO.**

72 Crow Ave.
Cleveland, : : Ohio

The Milwaukee Miller

AT WORK

Running with seven milling cutters of different sizes, and removing 5% cubic inches of cast iron in one minute



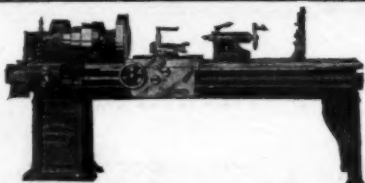
This shows a special gang in use on one of our No. 3-B Plain Millers. The cutters vary in diameter from $3\frac{3}{4}$ to 7 inches, the total width of cut being 12 inches, and the rate of feed 3 inches.

The merit of the "Milwaukee," from the user's viewpoint, lies in its ability to accomplish exceptional results, due to the elimination of power losses within the machine, which insures the maximum cutting effect, and to its ease and quickness of adjustment, which save the time of both machine and operator. To do work faster and easier—that spells economy. It was economy, proved in actual service, that put over two hundred "Milwaukee" Millers into the shops of one concern.

How about your shop? Can't we save something for you?

KEARNEY & TRECKER CO.
318 Reed St., Milwaukee, Wis.

THE 16 INCH CINCINNATI LATHES



have every modern convenience for producing the most **accurate work** at least **labor cost**; with five or three step cone and double back gears. Furnished **plain**, or with quick change gear device for cutting screws without removing gears.

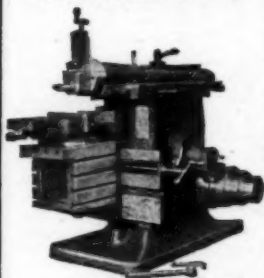
Write for Details

THE CINCINNATI LATHE & TOOL CO.
CINCINNATI, OHIO, U. S. A.

The Springfield Shaper

25-inch, Back Geared

Notable for two things—Strength and Power



The distribution of metal has been studied so carefully, that every pound contributes to the strength and rigidity of the machine, making it massive in effect without being clumsy. In proportioning the gears, driving mechanism, link and crank gear we have succeeded in delivering an unusual amount of power to the cutting tool, which makes this one of the most effective and economical shapers ever produced. The details of construction are described in our circular No. 127.

No trouble to mail you one

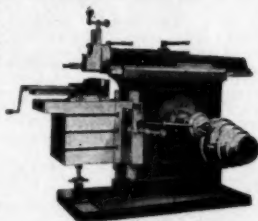
The Springfield Machine Tool Co.
633 Southern Ave., Springfield, Ohio

Steptoe Shapers

Embody every possible shaper convenience, and take good, hard, big cuts. They will, therefore,

**Produce
Work
Rapidly**

and at a minimum cost.

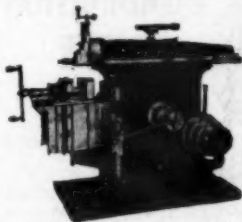


**We would like to prove the
advantages of our machines**

THE JOHN STEPTOE SHAPER CO.
Station B, Cincinnati, Ohio

FOR SHAPER RESULTS **Use the Kelly Back Geared**

That will insure you a maximum output and a minimum cost



The two things that make for effectiveness and economy in a shaper—strength and power—have been developed in the Kelly into its leading features. While it has every convenience and nicety of adjustment that is required in practical work, its ability to make heavy cuts, and its reliability under all conditions, have not been sacrificed to secure fads and frills that in actual service

prove of doubtful value. The fact that those who know the Kelly Shaper commonly refuse to have any other, is high testimony to its superiority.

**Making shapers only, we are able to specialize every detail of
manufacture, giving us a low cost and the buyer a low price**

The R. A. KELLY CO., 200 to 800 Market St., Xenia, O.

AN IDEAL WET TOOL GRINDER

At a Very Moderate Cost

Better than any dry grinder. Simpler than the expensive kind of wet grinders, and equally efficient.

The 12 x 2 in. corundum wheel picks up the water from lower wheel case, and throws a constant, even and easily regulated spray on the work. No pump or other complication; no wetting of operator or floor; nothing to get out of order.

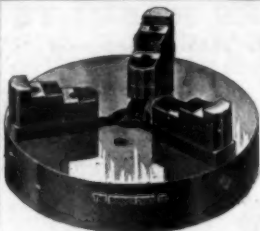
A well built machine, with large special steel spindle, large journals and self-oiling bearings.

Several of these grinders cost no more than a single large one, and will save time of "waiting turn."

This is an attractive proposition for any man seeking both goodness and low cost.

Let us send complete description and quotation

THE EDMONT MACHINE CO.
Mound Street, DAYTON, OHIO



ACCURATE COMBINATION LATHE CHUCKS

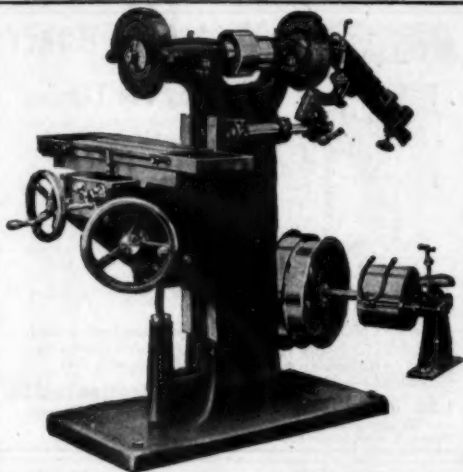
All Skinner Combination Chucks are carefully tested for accuracy, and must pass within certain limits before leaving factory. They are adaptable to a great variety of work.

Send for 1908 Price List

THE SKINNER CHUCK CO.

94 Reade Street,
New York City

90 N. Stanley Street,
New Britain, Conn.



A NEW SURFACE GRINDER

which, when desired, can be fitted with a drill grinder, as shown, and also a universal cutter and reamer grinding attachment, thus becoming

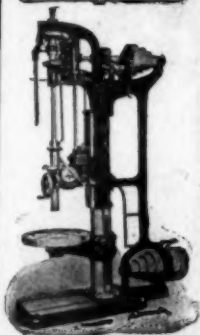
A COMPLETE TOOL ROOM GRINDER

Strong, heavy construction, solid bronze bearings, highest quality of workmanship and material, exceedingly convenient operation, covering wide range of work, are provided, and, withal, a reasonable first cost. The machine is furnished either for hand or power feed.

New Catalog describing this machine, also complete line of NEW YANKEE Drill Grinders, sent on request

Wilmarth & Morman Co.
575 Canal St., Grand Rapids, Mich.

CINCINNATI



**Heavy Upright Drilling
and Tapping Machine.
Positive Geared Feed.**

WILL SAVE MONEY

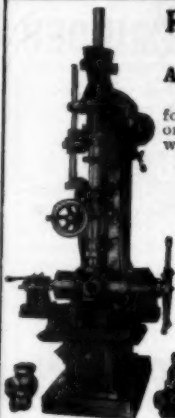
ON YOUR

Drilling and Tapping

Because it can turn out the work enough faster to make a material difference in the amount a man can do in a day. These drills, in weight, power and performance, mark a distinct advance in drill design and construction, and enable manufacturers to obtain a lower cost for drilling than is possible with drills of the common type. Their special patented features add greatly to their capacity and convenience of operation.

**When you want more work
from your drill hands, let
us figure with you**

**Cincinnati Machine Tool Co.
Township & Valley Streets,
CINCINNATI, O.**



Rather Spend a Dollar OR A DIME

And get the same thing for it ?

When you pay your lathe man a dollar for reaming, facing and tapping valves, or similar work, you only get what would cost you but a dime if done on the

Murchey Improved Tapping Machine

And better done at that; because each opening is tapped square and true, and at absolute right angles, without dependence upon the skill of the operator. Only one tool required, and one setting for the work.

**Why should you waste good coin,
when we can save it for you?**

**MURCHEY MACHINE CO.
53 Porter St., Detroit, Mich.**

FIT THE TOOL TO THE SERVICE REQUIRED

and you get the greatest economy of cost and the largest output.

DWIGHT SLATE DRILLS

meet the demands of present day requirements, for the following reasons:

First: Construction will bear the most rigid inspection both as to quality of material and workmanship.

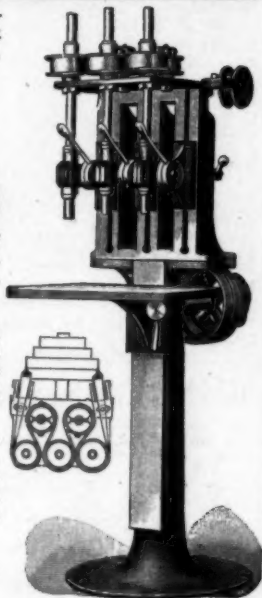
Second: Twenty-five years' actual use in the largest shops in the country is a guarantee of its efficiency and durability.

Third: Moderate in price.

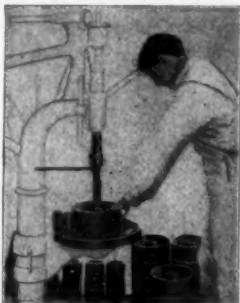
We also manufacture Automatic Gear Cutters with capacity for cutting spur, bevel and crown gears, ranging from $\frac{1}{8}$ inch to 8 inch diameter, $4\frac{1}{2}$ inch face, 12 pitch and finer.

It is worth while to know what we can do for you

THE DWIGHT SLATE MACHINE CO.
HARTFORD, CONN., U. S. A.



FIFTY PER CENT SAVED ON KEY-SEATING



Takes only one-third as long to cut key-ways, either straight or taper, with the

National Key-Seat Miller

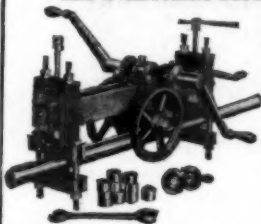
on an ordinary drill press, as with a planer or shaper, and any boy who can drill a hole will do it as rapidly and as well as an expert machinist. They are milled perfectly exact and true, so that keys require no filing or fitting. The device is simple, durable and inexpensive; attached to drill press in a moment, and as easily removed; it will cut a key-way in a pulley or gear in less time than it will take to get ready to cut it with any other tool. Cuts straight and taper key-ways, as well as oil grooves.

Get our references to users and investigate; find out what it is doing, and you wouldn't be without it

NATIONAL MACHINE TOOL CO.
208-210 Lawrence St., CINCINNATI, O.

WHAT DOES IT COST

WHEN YOUR LINE SHAFTING BREAKS DOWN
AND EVERYTHING DEPENDING ON IT STOPS?



The best insurance against excessive delays in such cases is to have a

BLOSS PORTABLE

KEYSEATER

which mills key-seats on shafting in place, $1\frac{1}{4}$ to 5 inch in diameter, on the end or in the middle. It will make a key-seat 18 in. long and $\frac{1}{4}$ to $1\frac{1}{4}$ in. wide without resetting. Its

price is so low for its value in emergencies, that this Portable Keyseater should be in every manufacturing plant and repair shop.

It's bad luck to delay insurance. Better write now

The Cincinnati Pulley Machinery Co.
118-120 West Second Street, Cincinnati, O.

For Center and Surface Grinding "Willey" Electric Grinders

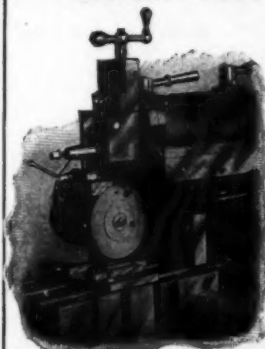
**Save the Time of More
Expensive Tools**

You can do work with these grinders that is as good in every way as if done with tools costing many times as much.

Shown on tool post of shaper for surface grinding. Can be used as well on a planer, on a lathe for centers, shafts or internal grinding, on a miller for grinding cutters, or wherever there is grinding to be done. It is one of those small economies that pay big returns on their cost.

**Also Electric Hand and
Breast Drills**

**Jas. Clark, Jr., Electric Co.
(INCORPORATED)
LOUISVILLE, : KY.**



For Saving Time and Labor

For grinding centers, reamers, cutters and dies; can be used in lathe, planer, shaper, or milling machine.

Bearings adjustable to wear and dustproof.

Air Cooled

**Made in four sizes,
1-4, 1-2, 1 and
2 h. p.**

**Emery wheels $4\frac{1}{2}$ to
12 in. diam.**

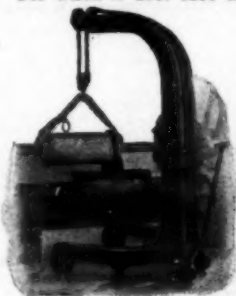
Sent on Trial

**THE UNITED STATES ELECTRICAL TOOL CO.
CINCINNATI, OHIO**



A PORTABLE CRANE AND HOIST

Often Pays for Itself in a Month
For when it does save time, it saves a lot of it



The quick handling of heavy castings and machine parts in many cases means economy in the time of more than one man; so that the minutes actually saved are frequently multiplied several times. And when, as with this convenience, one man can do what would require a number without it, the gain to the shop mounts up rapidly. This hoist easily raises from 3,000 to 6,000 pounds, according to size, and is readily handled and moved by one operator.

Try one at our risk

If not satisfactory, return it.

The Canton Foundry & Machine Co., Canton, Ohio

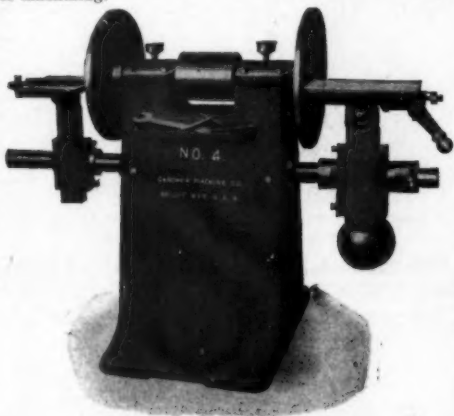
WHEN YOU INQUIRE

of advertisers herein, won't you kindly remember to say somewhere in your communication that the inquiry comes from Hitchcock's Machine Tool List? Advertisers are human; they like to know that the medium in which they spend their money is received and consulted by machinery users. Not being mind readers, they can only know this when you tell them, and if you neglect to tell them, the Tool List is deprived of credit for the service it has rendered.

GRIND IT OFF

Quicker and Cheaper than Milling or Planing

For small flat surfaces the Gardner machine and process give results that in points of economy of time and work, accuracy and perfection of finish, surpass any other method of machining.



THE F. N. GARDNER DISC GRINDER

is the product of nearly twenty years' experience in building such machines, and in developing the economy and efficiency of disc grinding; it does things that others can't do.

You Don't Have to Buy One

to find out just what it will save on your own work. Send us samples; we will determine and report to you the cost of finishing with our machine. You can tell the economy of it from our figures as well as if you had the machine in your shop. Then, if you wish, we will guarantee the grinder to do in your factory what we tell you it has done in ours, or remove it at our own expense.

Isn't this the right time to economize?

GARDNER MACHINE CO., Beloit, Wis.

The Disc Grinding Authorities

PLAIN FACTS ABOUT THE MERRELL



Merrell Pipe Threading and Cutting Machines are made, first of all, for **service**. They are built to stand the strain of continuous, arduous usage. They can be operated safely and easily by a mere novice.

This Combination Hand and Portable Merrell, in particular, is built to give the best service at least cost on operation. It can be used either as a portable hand machine, by removing the head from the base, or it can be used as a Stationary Power Machine.

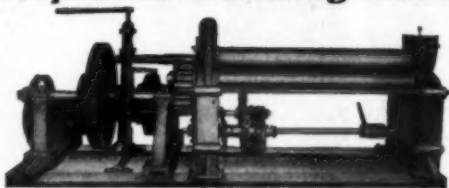
It will cut any size or kind of pipe up to 10 inches, in any style thread, better than any like machine built of any other make.

If you will write to us today and say: "I'm willing to try the Merrell at your expense," we will send one to you for thirty days' free trial.

It must show you what it can do, or it does not cost you a penny. Will you write at once?

THE MERRELL MFG. CO., 17 Curtiss St., Toledo, O.

Improved Bending Rolls



The cut shows our Improved Boiler Roll, with 7 and 9 in. steel rolls, double friction pulley drive, power raising device and drop-end housing, built in standard widths for belt or motor. Our Bending Rolls are carefully designed and well built, and in every point where they depart from standard lines they show marked improvements that every practical user will appreciate.

Let us figure on your wants in Punches, Shears, Rolls or Doublers. We make a full line of each, embodying the best modern practice in such tools, including our own original patents.

The Cincinnati Punch & Shear Co., Cincinnati, O.

A BETTER WAY

To Clean Small Machine Parts

**COSTS LESS THAN GASOLENE; IT IS SAFER
AND MORE CONVENIENT**



For newly made machine parts, which must be freed from oil, grease and chips for case-hardening and assembling, and for cleansing parts of machinery to be overhauled and repaired, the simplest, cheapest and only safe process is immersion in boiling lye. This is easy with our

Soda and Potash Kettles

which do the work rapidly, thoroughly, at small cost, and entirely without the risk inseparable from gasoline. Heated with a Bunsen gas burner, or a blue-flame kerosene burner. Better than steam-jacketed kettles, because they are portable and require no expensive steam fittings, traps or drains. Both cost and expense of operation are much less than steam kettles.

One Size:
Ten Gallons
Capacity

In stock for
immediate
shipment

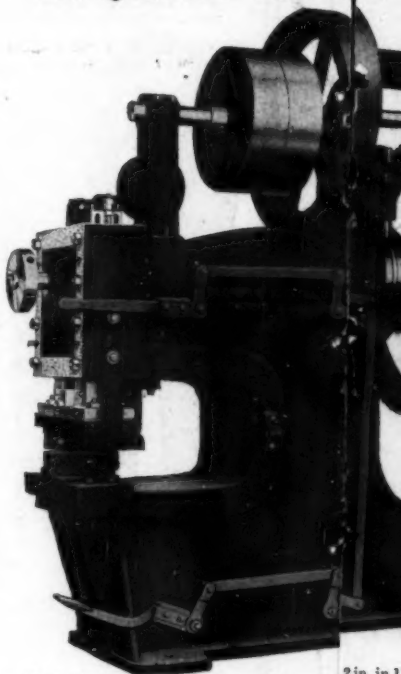
**YOU WILL FIND THE PRICE ATTRACTIVE;
THEIR ECONOMY EVEN MORE SO**

THE GRAY & PRIOR MACHINE CO.
79 Suffield St., HARTFORD, CONN.

PUNCHING AND SHEARS

UNEQUALLED IN PRODUCTION

Power Punches
and Shears,
Plate Shears,
Sheet Shears,
Gap Shears,
Bending Rolls,
Angle Rolls,
Straightening
Rolls



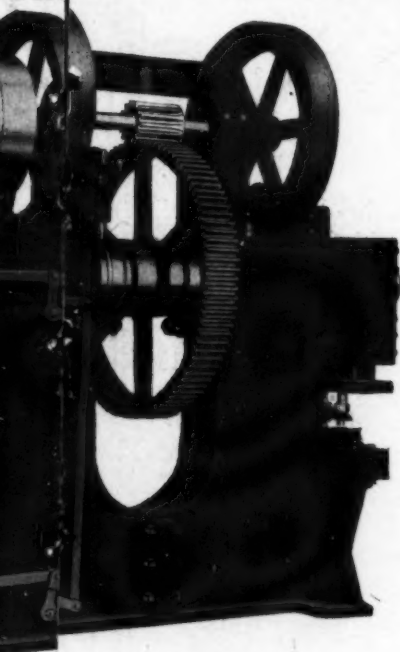
Depth of throats, 24 and 12 in.; capacity, punch 2 in. in 1

ASK FOR COMPLETE DESCRIPTION AND PRICE

THE CINCINNATI IRON & STEEL

HEARING MACHINERY

PRODUCTIVE CAPACITY



All well built,
of finest
material,
for hard,
practical use.

Cut gears
up to 48 in.
diameter;
all pinions
cut from
solid bar.

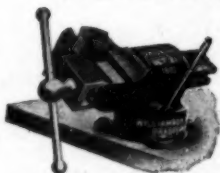
2 in. in 1 in.; shear, 8x1½ in.; cuts 2½ in. round.

y, punch
ION AND PRICES OF THESE MODERN TOOLS

N & STEEL CO., Cincinnati, O.

THE EARNING POWER OF The Williamson Double Swivel Vise

IS MEASURED BY THE TIME IT SAVES



Watch your vise hands clamp and unclamp a job to get it in the right position, and note how quickly the right position could be obtained with a Williamson vise without unclamping it at all. The difference is time lost—time you have to pay for. Williamson vises don't wear out, and their money-saving power never diminishes; they make the work easier for the

bench man, so that he does more of it at the same cost to you. That is the kind of economy that counts.

Vise revolves in two complete circles, vertical and horizontal; locks instantly at any point in either

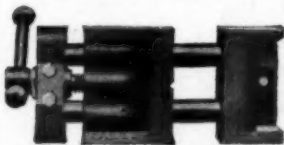
WILLIAMSON VISE CO., :: Bradford, Pa.

Special bases for use on planers, shapers, drill presses, millers, etc.

Complete in Itself

The One Drill Press Vise

That is all there when you want it



The Titus

has no attachments, loose bolts, nuts, screws or other parts to get out of order, and hence is a time saver, not a time waster. Holds anything round, square, or irregular; square on base and edges, so you can drill at absolute right angles from either side; has no lodging place for oil or chips. It is wear proof and fool proof; you can trust the rawest hand to get along with it.

No risk in trying it for a month

If you find it isn't what you want, return at our expense

TITUS MACHINE WORKS
MARION, OHIO

The Sweetland Geared Scroll Chuck

WITH SOLID REVERSIBLE JAWS

**Renders 2 sets of jaws unnecessary
Is cheaper than a chuck with 2 sets**

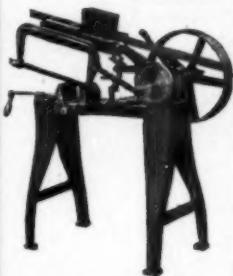


**Is more simple and much superior
Chucks guaranteed; we invite a trial**

THE HOGGSON & PETTIS MFG. CO., New Haven, Conn.

GOOD REASON WHY

The Racine Automatic Lift Draw-Cut Power Hack Saw

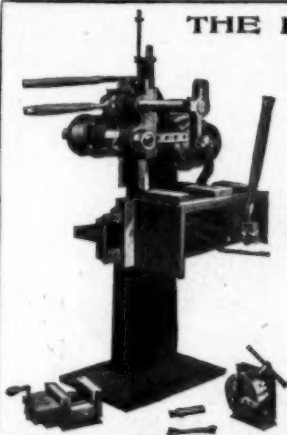


will cut more material with one blade than any other—it has a patent, automatic lift, that raises the blade on the return stroke. Everybody knows it is impracticable to run a milling cutter, drill or reamer backwards, and the same is true of a saw. A sharp blade will cut fast and straight; a dull one won't. What we claim for our saw is that it keeps the blade sharp. Lifting device is a hardened steel ratchet—not a friction.

Ask your machinery dealer for particulars, or write direct to our Department No. 9. It will surprise you what this hack saw will do.

Our price is reasonable. Ask for it

RACINE GAS ENGINE CO., : : Racine, Wis.



THE FARWELL

QUICK CHANGE

MILLER

**Keyseater
Profiler and
Cam Cutter**

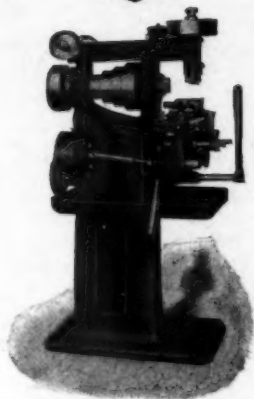
A hand machine of
unusual speed, accu-
racy and range.

Catalogue 37

**The Adams
Company**
Dubuque, Iowa

Machinery Wanted

The attention of machinery users is directed to the slip which is enclosed in each copy of the **Machine Tool List**, headed "Memorandum of Machinery Wanted." This affords a convenient method of reaching all advertisers with an inquiry for what you want, as the publisher forwards direct to each advertiser a copy of all such inquiries received.



NO. 3 HAND MILLER, WITH P. P.

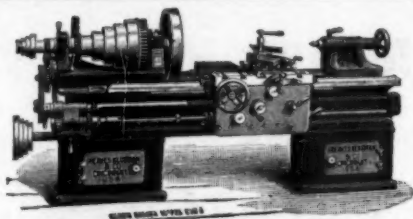
**OUR MACHINES CAN BE SEEN
IN OPERATION**

AT

156 Oliver Street, BOSTON
14 South Canal Street, CHICAGO
711 St. Clair Ave., N. E., CLEVELAND

DON'T FAIL TO SEE THEM

Chicago Machine Tool Co.
12 S. Canal St., Chicago, Ill.



Standard Engine Lathes

16 to 24 Inch Swing

—BUILT BY—

Greaves, Klusman & Co.

N. E. Cor. Cook & Alfred Sts., Cincinnati, O., U. S. A.

ALSO BUILDERS OF

**Pattern Makers' Lathes & Machinery
and Metal Spinners' Lathes**

Machine Tool Makers

should investigate carefully the facilities offered by **Hitchcock's Machine Tool List** for reaching this trade in all parts of the country. Its circulation is specialized to completely cover *every line of manufacture* in which machine tools are used—as well as all railroad and other tool-using shops—with a thoroughness and effectiveness not equalled by any other advertising medium.

NEW AND IMPROVED
"MIAMI VALLEY"
 13½ IN. ENGINE LATHES

FOR MANUFACTURING,
 JOB SHOP or TOOL ROOM



Taper Attachment, Draw,
 Spindle & Carriage Turret

Send for
 Catalogue B

Immediate delivery

The Miami Valley Machine Tool Co.

839 Germantown St. : : Dayton, O., U. S. A.

FOR SALE

No. 11 Higley Saw

Well taken care of and thoroughly overhauled since used

Price \$60⁰⁰

Box 186, Station B,

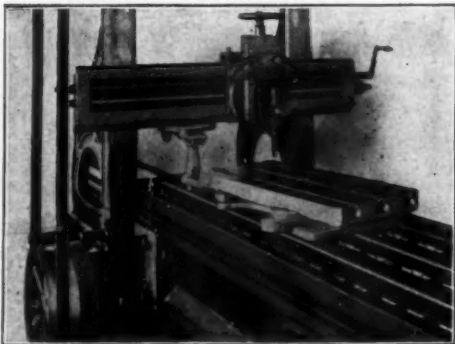
CLEVELAND, : : OHIO

Portable Machine Tools

MAKE MONEY BY SAVING IT

They do repair jobs at small cost in less time than would be required to get the defective part to a machine shop.

Invaluable in Railway and Jobbing Shops



RADIUS PLANER ATTACHMENT

For planing curves of any radius, and perfectly parallel curves, with an ordinary planer. A very simple and effective device for planing links, blocks and all kinds of curved or circular work.

Our Complete Line of Portables Includes:

Boring bars in great variety for boring engine, pump, compressor or other cylinders, Corliss valve seats, taper work, or any other kind of boring; also portable devices for milling, facing, planing valve seats and driving boxes, turning crank pins, facing domes and cylinder flanges, and turning eccentrics, etc. They do the work in place, saving the cost and loss of time required to detach and move it to a stationary machine.

L. B. Flanders Machine Works (Est. 1870)

H. B. UNDERWOOD & CO.

1022 Buttonwood St., PHILADELPHIA, PA.

Second-Hand Machinery.

Lists of second-hand machinery, either for sale or wanted, will be published under this heading at the rate of **40 cents a line**, across the page, each issue, with a minimum charge of **\$4.00**. Sub-headings are counted as one line, but the name and address of advertiser are not included in the space charged for. Prices and full descriptions of the machines listed will be furnished by the parties offering them for sale. If you do not find what you require, use the slip inclosed with each book to make known your wants to the publisher.

FOR SALE BY

Teuscher & Son Machinery Supply Co.

Second St. & Washington Ave., . . . St. Louis, Mo.

PULLEY LATHE.

One 30 in. Lodge & Shipley iron pulley lathe, with tool rest on each side and turret head boring attachment, so pulleys can be bored at same time they are being turned; in good condition, with clutch countershaft; a bargain.

MOTOR.

One 20 h. p., 220 volt, direct current General Electric motor; new; cheap.

FOR SALE BY

The Osborne & Sexton Machinery Co., . . . Columbus, Ohio.

LATHES.

12 in. x 5 ft., LeBlond, comp. rest.	24 in. x 9 ft., N. Y. S. E. Co.
13 in. x 5 ft., Pond, rise & fall rest.	24 in. x 12 ft., Bradford, cp. r., ta. att.
14 in. x 6 ft., Steptoe, rise & fall rest.	24 in. x 23 ft., N. Y. S. E. Co., cp. r.
14 in. x 6 ft., Carroll-Jamison, cp. r.	28 in. x 7 ft., N. Y. S. E. Co.
16 in. x 6 ft., Fitchburg.	28 in. x 12 ft., Putnam, comp. rest.
18 in. x 6 ft., Steptoe, rise & fall rest.	36 in. x 7 ft., N. Y. S. E. Co.
18 in. x 7 ft., Steptoe, rise & fall rest.	32 in. x 16 ft., Niles, compound rest.
18 in. x 7 ft., Turrett.	36 in. x 9 ft., N. Y. S. E. Co.
18 in. x 8 ft., N. Y. S. E. Co.	54 in. x 12 ft., N. Y. S. E. Co., cp. r.
20 in. x 6 ft., Pond, plain rest.	60 in. x 25 ft., Wood-Light, cp. rest.
20 in. x 11 ft., N. Y. S. E. Co., cp. r.	96 in. x 16 ft. 6 in., pit lathe.
21 in. x 10 ft., Fitchburg, comp. rest.	

PLANERS.

20x20 in. x 5 ft., N. Y. S. E. Co., grinding attachment.	36x32 in. x 9 ft., N. Y. S. E. Co.
24x24 in. x 5 ft., N. Y. S. E. Co.	48x48 in. x 20 ft., Wood-Light.

MISCELLANEOUS.

Bolt cutter, 2 in., Acme, standard.	Hammer, helve, 25 lb.
Bolt cutter, 2 in., Acme, stay bolt.	Hammer, Beaudry.
Bulldozer, No. 4 Williams & White.	Hammer, steam, 1200 lb., Morgan.
Cutter and reamer grinder, Garvin.	Milling machine, Lincoln.
Drill, radial, 5 1/2 ft., Fostick.	Pick eye machine (punch).
Drill, 20 in., w. and l. feed.	Punch and shear, small.
Drill, 28 in., power feed.	Punch and shear, single, large.
Drill, 36 in., power feed.	Punch and shear, double, large.
Drill, 36 in., double, for boiler shop.	Rolls, boiler plate, 84 in.
Flexible shaft, Stow.	Shears, beveling, for boiler plate.
Gear cutter, 36 in., Gould.	Slotter, 10 in., A.1 condition.

FOUNDRY EQUIPMENT.

Cupola, 1 ton.	Cupola, 5 ton.
Cupola, 3 ton.	Core oven, iron, with trucks.

MOTORS.

2 1/2 h. p., G. E., 220 volt, 3 phase.	7 1/2 h. p., Fairbanks, 220 volt, 3 phase.
2 h. p., Fairbanks, 220 volt, 3 phase.	10 h. p., Fairbanks, 220 volt, 3 phase.
3 h. p., Fairbanks, 220 volt, 3 phase.	15 h. p., Fairbanks, 220 volt, 3 phase.
5 h. p., G. E., 220 volt, 3 phase.	15 h. p., Commer'l, 220 volt, 3 phase.

We have many other iron-working machines not listed, and ask that you state your wants by letter.

SECOND-HAND MACHINERY

FOR SALE BY

The H. A. Stocker Machinery Co., 85-91 W. Randolph St., Chicago.

LATHES.

- 18 in. x 8 ft., Springfield, compound rest and taper, turret fitted to carriage, chuck fitted, fine order.
- 24 in. x 12 ft., Lodge & Davis, taper attachment.
- 24 in. x 12 ft., New Haven, cp. rest.
- 32 in. x 16 ft., Fay & Scott, cp. rest.
- 32 in. x 17½ ft., New Haven.
- 36 in. x 18 ft., Putnam, comp. rest.
- 42 in. x 18 ft., Niles.
- 48 in. x 21 ft., Putnam, t. b. g.
- 54 in. x 20 ft., New Haven, t. b. g.
- 24 in., turret, Davis, set-over turret.
- 24 in., turret, Foster-Kimball, 5 in. hole in spindle.
- 16 small lathes, various makes.

PLANERS.

- 16x16 in. x 4 ft., Hendey.
- 17x17 in. x 4 ft., Whitcomb.
- 20x20 in. x 5 ft., Pratt & Whitney.
- 24x24 in. x 5 ft., Powell, good order.
- 26x26 in. x 8 ft., Lodge & Davis.
- 32x32 in. x 14 ft., Flather, o.s.at., 2 hds.
- 36x36 in. x 8 ft., Am. Tool Wks., fine.
- 36x36 in. x 12 ft., Belmer, 2 hds., fine.
- 40x40 in. x 11 ft., Putnam, 1 head.
- 48x48 in. x 20 ft., Flather, 3 heads

BORING MILLS.

- No. 1 Fosdick, horizontal, fine order.
- No. 3 Meadville, hor. bor'g & drill'g.
- Binsse No. 3, hori. boring, drilling & milling machine, p. c. l. to table.

GEAR CUTTERS.

- 36 in., Gleason, gear planer, equal to new.
- 36 in., Becker-B., spur and bevel.
- 42 in., Gould & E., spur only.
- 50 in., Gould & E., spur, bev. & spiral.
- 60 in., Gould & E., spur only.
- 72 in., Gould & E., spur only.
- Gear cutters are all in fine condition.

MILLING MACHINES.

- No. 1 Brown & Sharpe, universal.
- No. 3 Brown & Sharpe, universal.
- No. 2 Putnam, universal.
- No. 9 Kempsmith, plain, back gd.
- No. 2 Cincinnati, plain, back geared.
- No. 3 Cincinnati, plain, back geared.
- No. 0 Brown & Sharpe, plain.
- No. 3 Chicago, hand, vertical spindle.
- Whitney, hand miller.
- No. 1 Pratt & Whitney, hand.
- No. 1 Garvin, Lincoln pattern.
- No. 3-H Becker-Brainerd, profiler, good as new.
- No. 4½ Burr, keyseat miller, takes up to 6 in.

SCREW MACHINES.

- 8 in., Cleveland, automatic.
- 1 in., Hartford, automatic.
- 1½ in., Hartford, automatic.
- 2x24 in., Jones & Lamson, fine order.
- Brown & S. No. 2, auto., pract'y new.
- 3 Brown & S. No. 2, automatic, 1896 pattern, good working order.
- 2 Brown & S. No. 00, automatic, new.
- 17 hand screw mches., various sizes.
- Large stock of turret lathes.

DRILLS.

- 4 spindle, Reddington, with chucks.
- 3 spindle, Sigourney, with chucks.
- 2 spindle, Foote-Burt, adjustable.
- Prentice, suspension, with over-head works, for boiler plate.
- Dallet, portable, complete.
- 42 in., Fickford, power rotary feed to table, and facing attachment with power feed.
- Also other drills, 20 to 42 in. Write.

SHAPERS.

- 15 in., Walcott, geared.
- 16 in., Ohio, crank.
- 20 in., Kelly, back geared.
- 24 in., Cincinnati, back geared.
- 26 in., Walcott, triple geared.
- 34 in., Walcott, triple geared.

MISCELLANEOUS.

- Axle cutting-off and centering machine, 9 in., good condition.
- Bolt cutter, National, 2½ in.
- Bolt cutter, Adams, 2½ in.
- Bolt header, Burdick, 4 in.
- Borer, car wheel, Niles, 42 in.
- Bulldozer, No. 3 Williams & White.
- Cutter grinder, No. 1 Cincinnati.
- Cutting-off machine, P. & W., 2 in.
- Cutting-off machine, H. & R., 4 in.
- Hammer, Bradley, 25 lb.
- Hammer, L. & A., 60 lb.
- Hammer, drop, 1,000 lbs.
- Keyseater, No. 3 Baker Bros., fine.
- Keyseater, No. 3 Mitts & M., good.
- Nut tapper, Acme, 6 sp., 2 in., good.
- Pipe cutting and threading machine, 4 in., Stoeber.
- Pipe machine, Bignall & K., 3 in.
- Pipe machines, Nos. 7 & 9 Jarecki.
- Press, No. 75 Crosby, straight sided.
- Pulley lathe, 30 in., Schellenbach.
- Pulley lathe, 42 in., Schellenbach.
- Pulley lathe, 62 in., Lodge & Shipley.
- Punch & shear, Cleve., style E, 1½ x 1.
- Punch & shear, No. 4 Cincinnati, 4 x 4 in.
- Punch & shear, No. 7 L. & A., d. end.
- Slotter, Niles, 12 in., equal to new.
- Wheel press, hydraulic, 40 ton.
- Wheel press, hydraulic, 200 ton.

SECOND-HAND MACHINERY

FOR SALE BY

C. C. Wormer Mach'y Co., 94-96 W. Woodbridge St., Detroit, Mich.

LATHES.

- | | |
|---|---|
| 9x40 in., Barnes, foot power. | 16 in. x 8 ft., LeBlond, comp., quick change gears, pan bed. |
| 12 in. x 5 ft., Dexter, swivel rest. | 16 in. x 8 ft., Draper. |
| 14 in. x 4 ft., LeBlond, bk. gd., stud. | 18 in. x 8 ft., LeBlond, comp., standard, turret on car. |
| 14 in. x 4 ft., LeBlond, pl., standard. | 18 in. x 8 ft., LeBlond, cp., standard. |
| 14 in. x 5 ft., LeBlond, cp., standard. | 18 in. x 10 ft., LeBlond, comp., standard, and taper. |
| 14 in. x 6 ft., LeBlond, r., standard. | 20 in. x 8 ft., LeBlond, comp., standard, turret on shear. |
| 14 in. x 6 ft., LeBlond, quick chg. gr. | 20 in. x 8 ft., plain, standard. |
| 14 in. x 6 ft., LeBlond, comp., standard, with taper. | 20 in. x 8 ft., LeBlond, special turret on special car. |
| 14 in. x 6 ft., Prentice. | 20 in. x 10 ft., LeBlond, high speed. |
| 14 in. x 6 ft., Reed. | 20 in. x 10 ft., Reed. |
| 14 in. x 8 ft., Prentice. | 20 in. x 18 ft., LeBlond, high speed, reducing, dbl. roughing carriage. |
| 16 in. x 6 ft., Reed. | 24 in. x 10 ft., LeBlond, quick chg. gr. |
| 16 in. x 6 ft., Blaisdell, r. & f. rest. | 24 in. x 10 ft., Bridgeport, with chuck. |
| 16 in. x 6 ft., LeBlond, cp., standard. | 24 in. x 13 ft., New Haven, cp. rest. |
| 16 in. x 6 ft., Blaisdell, with taper. | 60 in., Stevens, pulley, with boring and crowning attachments. |
| 16 in. x 6 ft., LeBlond, r. & f., stand. | |
| 16 in. x 8 ft., plain, standard, turret on shears. | |
| 16 in. x 8 ft., LeBlond, comp., standard, with taper. | |
| 16 in. x 8 ft., LeBlond, standard. | |

MILLERS.

- | | |
|--------------------------------------|---------------------------------|
| No. 5 Becker & B., plain, all feeds. | No. 2 LeBlond, plain. |
| No. 0 LeBlond, plain. | No. 2 $\frac{1}{2}$ Fox, plain. |

SHAPERS.

- | | |
|----------------------------------|------------------------------------|
| 16 in., Kelly, plain crank. | 24 in., Hendey, friction gd. rack. |
| 20 in., Gould & Eberhart, crank. | 26 in., Kelly, back geared crank. |

PLANERS.

- | | |
|------------------------------------|--|
| 26x25 in. x 6 ft., Draper. | 30x30 in. x 8 ft., Cincinnati, with right angle drive. |
| 31x31 in. x 9 ft. 9 in., Brettell. | |

HAMMERS.

- | | |
|--------------------------|------------------------|
| 100 lb., rope lift drop. | Hackney, double frame. |
|--------------------------|------------------------|

DRILLS.

- | | |
|--|---------------------------------------|
| 24 in., Aurora, back geared. | 4 ft., gang radial. |
| 24 in., Curtis & Snyder, back geared, with power rotary table. | No. 1 Foote-B., 4 spindle, universal. |
| | No. 5 Barr, sensitive. |

SHEARS.

- | | |
|--|---------------------------------------|
| 14 in. throat, circle shear. | 36 in., Hercules, foot pwr. squaring. |
| 20 in., Bliss, power squaring. | 10 ft. 10 in., foot power squaring. |
| 22 in., P. S. & W., ft. pwr. squaring. | No. 13 Badger State, 7 in. blade. |

BORING MILLS.

- | | |
|---------------------------------------|---|
| 30 in., Gisholt, vertical. | 48 in., Harrington, vertical. |
| 48 in., No. 52 Bement & D., vertical. | 9 ft., Sellers, with facing attachment. |

SCALES.

- | | |
|------------------------------------|--------------------------------------|
| 10 lb., Fairbanks, bench platform. | 1,000 lb., platform scale. |
| 800 lb., No. 11 Fairbanks. | 30,000 lb., hopper scale, Fairbanks. |

GRINDERS.

- | | |
|--|-------------------------------|
| Cincinnati, plain tool grinder. | Hisey-Wolf, type B, 220 volt. |
| No. 1 Cincinnati, univ. cutter & tool. | No. 6 Gardner, double disc. |
| No. 6 Pratt & Whitney, cutter. | No. 10-C Bealey, spiral disc. |

MISCELLANEOUS.

- | | |
|---|--|
| Benches, 130 ft. of hard maple. | Milling mach. vise, No. 4 LeBlond. |
| Benches, coremakers', misc. (3). | Motor, a. c., 20 h. p., 440 volt. |
| Benches, moulders', misc. (4). | Pulley drilling and tapping machine. |
| Bench taper, with 2 in. 3-jaw chuck. | Screw machine, No. 1 Foster-K. |
| Brake, cornice, No. 8, imp. dbl. truss. | Shop saw, No. 1 Q. & C., cap. 4x4 in. |
| Bench filer & hack saw, str. 9 to 6 in. | Sprue cutter, 10 in. throat. |
| Centering machine, No. 2 Whiton. | Tap & thread'g mch., No. 1 Allen. |
| Cutting-off machine, 3 in., P. & W. | Wire straightener and cut-off mach., No. 1 Schuster, long cut, auto. |
| Drill press chuck, No. 3 Cincinnati. | |

Prices and description on application.

SECOND-HAND MACHINERY

FOR SALE BY

Perkins & Frecker, . . . 136 Liberty St., New York, N. Y.

LATHES AND SCREW MACHINES.

12x5, Davis, c. r., p. c. f., late pat. (3).	1 in., Drees, turret, auto. chuck.
14x6, Putnam, c. r., p. c. f., chuck.	No. 3 P. & W., turret, 3 in. hole, fric. head, power feed.
16x6, Flather, plain rest, p. c. f.	2x24, Jones & Lamson, flat turret.
18x6, Prentiss, c. r., p. c. f., taper.	No. 3 Windsor, w. f. screw machine, 1 1/2 in. w. f. capacity.
20x8, McMahon, c. r., p. c. f., 15 in. ck.	
21x6, Fifield, c. r., p. c. f.	

MISCELLANEOUS.

Grinders, Nos. 1 1/2 & 4 Landis, univ.	Miller, No. 2 Garvin, Lincoln pat'm.
Grinder, 20 in., wet tool.	Planer, 24x24 in. x 6 ft., Whitcomb.
Miller, No. 16 Garvin, plain.	Shaper, 24 in., Hendey, friction.

FOR SALE BY

The Patterson Tool & Supply Co.,

Dayton, Ohio.

Indianapolis, Ind.

"N" signifies new. "U" signifies used.

LATHES.

1-U. 9 in., Barnes, power . . . \$ 75	20-N. 17 in. x 10 ft., Greaves . . . \$404
6-U. 9 in., Barnes, foot . . . 60	11-U. 18 in. x 6 ft., McFarlane . . . 140
2-U. 11 in., Barnes, pwr., chuck and tools . . . 90	3-U. 18 in. x 8 ft., N.Y.S.E., ck. 150
21-U. 12 in. x 5 ft., Fairbanks . . . 250	8-U. 18 in. x 8 ft., Draper, ck. . . 385
26-U. 13 in. x 5 ft., Blount, speed 50	24-N. 18 in. x 8 ft., Porter . . . 350
22-U. 13 1/2 in. x 6 ft., Miami Valley 225	4-U. 18 in. x 10 ft., Amer., taper, turret, gap, 5 in. blocks . . . 790
23-N. 13 1/2 in. x 6 ft., Miami Valley, taper . . . 285	12 N. 18 in. x 10 ft., Hamilton A, taper . . . 590
7-U. 15 in. x 6 ft., Sebastian . . . 150	15-N. 19 in. x 8 ft., Rahn-C. . . 480
17-N. 15 in. x 6 ft., Carroll . . . 220	8-U. 19 in. x 9 ft., home made . . 75
18-N. 15 in. x 6 ft., Von Wyck, tool room . . . 480	19-N. 20 in. x 10 ft., Rahn-C., A. 540
27-N. 15 in. x 6 ft., Von Wyck . . . 290	29-U. 24 in., Gisholt, new in '01 . 1200
16-N. 15 in. x 8 ft., Sebastian . . . 258	54-U. 26 in. x 22 ft., Fitchburg, e. r., with carriage turret . . . 600
25-N. 15 in. x 8 ft., Von Wyck . . . 312	9-U. 35 in. x 10 ft., 6 in. blocks. 175
10-U. 16 in. x 6 ft., Blaisdell . . . 135	28-U. 43 in. x 16 ft., Amer. Tool Wks., triple gd. hd., 56 in. blks., faceplate jaws, fine order . . 1600
13-N. 17 in. x 8 ft., Greaves, c. r. 376	
14-N. 17 in. x 8 ft., Rahn-C., A. 475	

PLANERS AND SHAPERS.

30-U. 15x15 in. x 3 ft. . . . \$125	34-U. 15 in., Hendey, tilt. table. \$200
31-U. 15x22 in. x 5 ft. . . . 90	12, 16, 20 and 24 in., Rockford, new.
22-U. 22x22 in. x 5 ft. . . . 150	16, 17, 20 and 26 in., Kelly, new.
33-U. 22x22 in. x 6 ft., Powell . . 250	16, 18 and 22 in., Ohio, new.

DRILLS AND BORING MACHINERY.

37-U. 20 in., Barnes, square base, short and long feed . . . \$ 40	38-U. 4 spindle, Pratt & W. . . \$125
35-U. 36 in., revolving table . . . 75	39-U. 4 spindle, Garvin, no c. s., (2), each . . . 40
36-U. 36 in., boilermakers' . . . 40	40-U. No. 1 Niles, horiz., fine . . 600

MILLING MACHINES.

Nos. 2, 3 and 3 1/2, Fox, new.	52-U. No. 24 Hendey, Lincoln, 14x48 in. over all . . . \$200
43-U. No. 1 Brown & Sharpe, universal (1895) . . . \$325	53-U. No. 2 Garvin, Lincoln . . . 120

MISCELLANEOUS.

42-U. Grinder, surface, Diamond cup wheel . . . \$ 50	46-U. Pipe mche, No. 205 Oster. \$150
44-U. Grinder, knife, 76 in., B., T. & B., automatic . . . 175	48-U. Punch and shear, No. 12 D Cleveland, bk. gd., shear 1/2 in., punch 1x1/2 in. . . 350
54-U. Jointer, hand, 24 in., F. & E. 100	56-U. Time recorder, Bundy, 200 key, fine order . . . 75
45-U. Pipe mche, No. 78 Forbes. 75	41-N. Ventilating wheels, 48 in., Barney (2), each . . . 80
47-U. Pipe machine, 2 in., Saunders, IXL . . . 50	51-U. Watchman's clocks, Buerk (2), each . . . 25
49-U. Pipe machine, No. 4 Mer-rill . . . 200	

SECOND-HAND MACHINERY

FOR SALE BY

Prentiss Tool & Supply Co., New York, Boston, Buffalo, Syracuse.

LATHES.

12 in. x 5 ft., Star, comp. rest, p. c. f.
12 in. x 5 ft., Reed, comp. rest, power cross feed, hollow spindle.
14 in. x 6 ft., Le Blond, comp. rest, quick change, power cross feed.
15 in. x 8 ft., Prentice Bros., rise and fall.
16 in. x 6 ft., Prentiss, Cyclone, cp. rest, power cross feed.
17 in. x 6 ft., Hamilton, comp. rest, power cross feed.
18 in. x 8 ft., Pratt & W., comp. rest.
21 in. x 8 ft., Lodge & D., c. r., p. c. f.

24 in. x 14 ft., Lodge & S., triple gd.
31 in. x 10 ft., Putnam, comp. rest, power cross feed.
33 in. x 12 ft., Putnam, comp. rest, power cross feed.
35 in. x 26 ft., Putnam, comp. rest, power cross feed.
35 in. x 12 ft., Pond, cp. rest, p. c. f.
36 in. x 15 ft., Lathe & Morse, comp. rest, power cross feed.
48 in. x 17 ft., Pratt & W., triple gd., comp. rest, power cross feed.
26-44 in. x 18 ft., McCabe, dbl. spdle.

PULLEY LATHES.

26 in. and 30 in., Stevens.

60 in. x 10 ft., New Haven.

MILLERS.

Nos. 1 and 2 Pratt & W., hand.
No. 3 Kempsmith, hand.
Nos. 2 and 3 Fox, hand.
No. 2 Kempsmith, plain.
No. 14 Garvin, plain, geared feed.
No. 1 Brown & Sharpe, universal.
No. 1½ Cincinnati, universal.

No. 3 Cincinnati, plain.
No. 3 Cincinnati, universal.
Nos. 3 and 4 Brown & S., plain.
No. 22 Garvin, vertical.
No. 5 Becker-B., vert., with rotary.
No. 22 Brainard, plain.

DRILLS.

4, 5 and 6 ft., radials, Bickford, plain.
4 and 5 ft., radials, Bickford, univ.
12 in., sensitive, 3 and 4 spindle.
20 in., Aurora, power feed.
24 in., Gang, radial.

28 in., 31 in. and 34 in. Barnes, sliding head, complete.
28 in., Snyder, sliding hd., back gd., power feed.
34 in., Barnes, sliding hd., complete.

SHAPERS.

18 in., Prentiss, plain crank.

48 in., Morton, draw stroke.

BORING MILLS.

24 in., Colburn, turret head.
36 in., Brown & Sharpe, vertical chucking machine.

38 in., McCabe, 1 head.
61 in., Niles, 2 heads, almost new.

GEAR CUTTERS.

30 in., 33 in. and 50 in., G. E., auto.

18 in. and 24 in., Brown & Sharpe.

PRESSES.

Nos. 18 and 19½, Bliss, inclinable.
No. 4 V. & O., geared.

No. 6 R. & K., geared, extra heavy.
No. 2 Stiles, punching.

PLANERS.

20x20 in. x 4 ft., New Haven, 1 head.
22x22 in. x 5 ft., Farrell, 1 head.
26x24 in. x 6 ft., Ferris & Miles.
30x30 in. x 8 ft., Smith & Silk.

30x30 in. x 14 ft., Gray, 2 heads.
50x36 in. x 14 ft., Pond, 2 heads.
60x60 in. x 22 ft., Hepworth, 1 head.

SCREW MACHINES AND MONITORS.

7-16 in., Pratt & Whitney, wire feed.
4 in., Pratt & Whitney, wire feed.
6 in., Warner & Swasey, wire feed.
1 in., Garvin, wire feed.

1½ in., Warner & Swasey, wire feed.
21 in., Gisholt, turret lathe.
2x24 in., Jones & Lamson, flat turret.
1½ in., Spencer, double end, auto.

HAMMERS.

150 lb., Bradley, vertical, helve.
600 lb. and 1,250 lb., steam.

100 lb., 600 lb. and 1,200 lb., board drop.

MISCELLANEOUS.

Metal band saw, No. 2 Wright.
Pipe machine, 4 in., Saunders.
Profiler, Garvin, 1 spindle.
Punch and shear, 42 in., gap.

Riveter, 4 in., Shuster.
Slotter, 12 in., Newton.
Surface grinder, Walker, automatic.
Tool grinder, Gisholt, universal.

SECOND-HAND MACHINERY

FOR SALE BY

Adams Machinery Co., . . . 401 Ashland Block, Chicago, Ill.

LATHES.

12 in. x 6 ft., Putnam. | 16 in. x 6 ft., McCabe.
14 in. x 6 ft., Springfield Tool Co. | 20 in. x 8 ft., Pratt & Whitney.

PLANERS.

24x24 in. x 4 ft., New Haven. | 30x30 in. x 8 ft., Whitcomb.

MILLERS.

No. 13 Brown & Sharpe, plain. | No. 2 Kemp Smith, plain.

MISCELLANEOUS.

Bolt cutters, Acme (2). | Engines, 9x14x12, Ide, tandem cp. (3).
Drills, sensitive (3). | Engine, 14x20, Atlas, throttling.
Grinder, twist drill, Yankee. | Engine, 18x42, Nordburg-Corliss.
Grinder, wet wheel. | Engine, 24x52, Nordburg-Corliss.

FOR SALE BY

**Wm. C. Johnson & Sons Machinery Co.,
210-212 Washington Ave. . . . St. Louis, Mo.**

LATHES.

15 in. x 4 ft., Draper. | 30 in. x 18 ft., Pond.
16 in. x 8 ft., Blaisdell. | 36 in. x 21 ft., screw cutting.
20 in. x 18 ft., screw cutting.

SHAPERS AND PLANERS.

16 in., Steptoe shaper. | 24x24 in. x 5 ft., Gray planer.
24 in. x 6 ft., Niles, traveling head. | 36x36 in. x 12 ft., Niles planer.

MISCELLANEOUS.

Air compressor, 5x7x6, Smith-Vaile. | Drill, portable, Dallet.
Air compressor, 18x30x30, Ingersoll. | Drop for breaking castings.
Air compressor, 20x20 & 13x24, Norwalk. | Foundry outfit, complete.
Bolt cutter, 1 in., Standard, dbl. hd. | Hammer, 350 lb., steam.
Bolt header, 1 1/2 in., National. | Planing machine, rotary, for facing
Cranes, jib (2). | columns, large and heavy.
Punch, No. 12-C New Doty.

FOR SALE BY

A. D. White Machinery Co., . . . 19-23 S. Jefferson St., Chicago.

LATHES.

16 in. x 6 ft., Flather, pl. r., h. spdle. | 20 in. x 8 ft., Pratt & W., r. & f. rest.
16 in. x 6 ft., Bradford, cp. r., h. spdle. | 20 in. x 10 ft., Putnam, comp. rest.
18 in. x 10 ft., Flather, cp. r., h. spdle. | 36 in. x 28 ft., Putnam, cp. r., trip, gd.

PLANERS AND SHAPERS.

30x30 in. x 9 ft. 6 in., Sellers, 1 head. | 17 in., Baush & H. shaper, heavy.
36x28 in. x 10 ft., Putnam, 1 head. | 25 in., Steptoe shaper, back geared.
36x32 in. x 8 ft., N. Y. S. E. Co., 1 hd. | 9x24 in., Sellers shaper, travel. head.

PRESSES.

Nos. 18 and 19 Bliss, open back, inc. | No. 3 R. & K., dbl. ck., straight side.
Nos. 3, 4, 4 1/2 and 5, R. & K., o. b., inc. | No. 95 S. & P., not geared.
No. 18 Holden, open back, inclinable. | No. 20 Wold, open back.

TURRET LATHES AND SCREW MACHINES.

No. 2 B. & S. auto. screw machs (3). | 8 in., Cleveland, semi-auto. screw
No. 5 Pearson, back geared, friction | machines (2).
head, screw machines (2). | 2 in., Cleveland auto. screw machs.
No. 3 Foster-Kimball screw mach. | No. 3 Garvin, back gd., turret lathe.

MILLERS.

No. 2 Brown & S., bk. gd., plain (2). | No. 3 1/2 Fox, plain.
No. 0 Brown & Sharpe, plain. | No. 1 D. & E., plain, back geared.
No. 2, universal, with vertical attach. | No. 1 Pratt & Whitney, plain.

We have several hundred others. Write. ☉

SECOND-HAND MACHINERY

FOR SALE BY

Marshall & Huschart Machinery Company,

62-66 S. Canal St., Chicago.

109 Kentucky Ave., Indianapolis.

908-910 North Second Street, St. Louis.

BOLT CUTTERS.

1½ in., Putnam, single head.

1½ in., National, complete.

BORING MILLS.

42 in., Bullard, 1 turret head.

Bement-D., 6 ft. table, ¾ in. bar.

DRILLS.

2 spindle, Redington, sensitive.

28 in., Manufacturers', stationary head, back gears, power feed.

3 spindle, Barnes, 16 in. gang.

4 ft., Niles, plain radial.

4 spindle, Harrington, spindle adjustable laterally on rail.

4 ft., Niles, half universal radial.

4 spindle, Lamson & G., sensitive.

4 ft., Universal Radial Drill Co., plain radial.

18 in., upright, stationary head.

4 ft., Western, full universal radial, geared drive.

24 in., Aurora, stationary head, ck.

5 ft., Niles, half universal radial, gear feed latest pattern.

24 in., sliding head, back geared.

26 in., Barnes, stationary head.

26 in., Bickford, upright, sta. head.

22 in., Aurora, sliding head, chuck.

GRINDERS.

No. 1 Cincinnati, cutter and tool grinder.

8x26 in., Diamond, roll, plain.

No. 1 Landis, universal.

10 in., Diamond Mch. Co., plain cone.

Barr, complete.

10x30 in., Morse, plain.

8 in., Heald, ring and surface, new.

12x42 in., Landis, universal.

LATHES.

13x6, Pratt & Whitney, turning.

16x6, Pratt & W., tool room, hollow spindle, swivel, plain rest, taper.

14x5, Hendey, engine, comp. rest, hand cross feed.

22x10, Greaves & Klusman, comp. rest, hollow spindle, chuck.

14x8, Flather, pl. rest, h. s., 2 chucks.

24x12, Lodge & Shipley, 5-step cone, compound rest.

14x8, Lodge & S., patent head, taper att., relieving attachment, 2 chucks.

28x16, Fifield, compound rest.

15x6, Blaisdell, h. s., rise & fall rest.

30x14, Fifield, compound rest.

15x6, Pratt & W., rise and fall rest.

PULLEY AND SPEED LATHES.

26 in., Stevens, pulley.

8x30 in., bench, speed.

36 in., Niles, pulley.

10 in. x 5½ ft., Sebastian-May, speed.

40 in., Schellenbach, pulley boring and turning machine.

Axle, Bement, double head.

MILLING MACHINES.

No. 6 Brown & Sharpe, plain.

No. 2 Cincinnati, universal, bk. gd.

No. 6 Garvin, plain, belt feed.

No. 2 1 e Blond, univ., belt & gd. fd.

No. 1 Brown & Sharpe, universal.

No. 3 Cincinnati, universal, back gd.

No. 2 Lodge & D., plain, back gd.

No. 4 Cincinnati, universal.

PLANERS.

24x24 in. x 4 ft., New Haven, 1 head.

27x27 in. x 8 ft., New Haven, 1 head.

24x24 in. x 5 ft., Whitcomb, 1 head.

30x30 in. x 8 ft., Pease, 1 head.

24x24 in. x 5 ft., Gray.

36x36 in. x 16 ft., Hewes & P., 2 hds.

24x24 in. x 8 ft., Lodge & D., 1 head.

44x44 in. x 10 ft., New Haven, 2 hds.

27x27 in. x 6 ft., Smith & Silk, 1 head.

70x48 in. x 27 ft., Pond, 1 head.

SCREW AND TURRET MACHINES.

¾ in., Cleveland full automatic screw machine.

No. 4 Windsor turret lathe, power feed, friction head.

¾ in., Pratt & W., w. f. screw mach.

16 in., Warner & Swasey turret lathe.

¾ in., Cleveland auto. screw mach.

22 in. x 6 ft., Lodge & D. turret lathe.

1½ in., Pratt & W. screw machine.

No. 3 Bardsons & Oliver turret lathe.

2 in., Jones & Lamson turret lathe.

48 in., Gisholt gap turret lathe.

MISCELLANEOUS.

Hammer, 800 lb., drop.

Notching press, 36 in., Ferracute.

Hammer, 1,100 lb., fric. board drop, overhead works.

Pipe machine, 2 in., Jarecki.

Hammer, 1,100 lb., Bement, single frame, steam.

Press, No. 75 Toledo.

Tapping machine, No. 1 Garvin.

Send for our complete list of second-hand and new tools.

SECOND-HAND MACHINERY

FOR SALE BY

Broadway Machinery Co., . 238 Broadway, Cincinnati, Ohio.

LATHES.

16 in. x 5 ft., Jones & L., hol. spdle.	38 in. x 14 ft., Fifield, comp. rest.
18 in. x 8 ft., Mueller, hol. spindle.	42 in. x 15½ ft., Steptoe, raise 48 in.
18 in. x 8 ft., Lodge & Barker.	Screw mach., Cleve'd, au., ½ in. stock.

PLANERS, SHAPERS AND DRILL PRESSES.

25x25 in. x 6 ft., Pond planer.	24 in., Barker shaper.
36x36 in. x 12 ft., Gleason planer.	36 in., Lodge & D. geared shaper.
24 in., back geared press.	26 in., Bickford, wheel & lever feed.

MISCELLANEOUS.

Air compressor, dbl. cyl., 10x14 in.	Pipe machine, ½ to 2 in., adj. head.
Belt riveter, 1½ in. capacity.	Steam engines, all sizes.
Gas and gasoline engines, 2 to 75 h. p.	Steam hoisting engine, 4 spool.

FOR SALE BY

O. L. Packard Machinery Co., . Chicago, Ill., and Milwaukee, Wis.

LATHES.

14 in. x 6 ft., Flather, taper attach't.	24 in. x 12 ft., New Haven.
18 in. x 8 ft., American.	36 in. x 12 ft., Davis & Egan.
20 in. x 8 ft., Davis & Egan.	

PLANERS.

24x24 in. x 8 ft., Pond.	36x36 in. x 10 ft., Pond, almost new.
24x24 in. x 6 ft., Pease.	

SHAPERS.

14 in. x 9 ft., dbl. table, traveling hd.	16 in., Cincinnati, back geared.
16 in., Steptoe, crank.	

DRILLS.

3 ft., American, plain radial.	5 ft., Cincinnati, full univ. radial.
--------------------------------	---------------------------------------

GEAR CUTTERS.

36 in., Brainard, automatic, spur and bevel gear.

HAMMERS.

100 lb., Bradley, strap.

MISCELLANEOUS.

Cut-off machine, 3 in., Hurlbut & R.	Grinder, drill, Washburn.
Die milling machine, Thurston.	

FOR SALE BY

The Randle Machinery Co., . 1739 Powers St., Cincinnati, O.

LATHES.

19 in. x 8 ft., Lodge-Barker, compound rest, solid spindle.
 24 in. x 12 ft., Flather, raised to 30 in., compound rest, hollow spindle.
 26 in. x 12 ft., Blaisdell, compound rest, hollow spindle.
 60 in., Stevens, pulley lathe.

PLANERS.

32x32 in. x 10 ft., New Haven, single head.
 40x40 in. x 11 ft., Aldrich & Calvert, single head.

SHAPERS.

20 in., Lodge & Davis Co., geared.

MILLERS.

Duplex brass miller.

ENGINES.

Corliss, automatic and throttling, all sizes.

BOILERS.

Tubular, fire box and vertical, all sizes.

MISCELLANEOUS.

Pumps, heaters, tanks, wagon scales, saw mill machinery, etc.

We are sole manufacturers of the celebrated "Leader" Injectors and Ejectors.

SECOND-HAND MACHINERY

FOR SALE BY

J. J. McCabe, . Hudson Terminal, 30 Church St., New York City.

BIG LATHES.

30 in. x 12 ft., New Haven, triple gd.	46 in. x 18 ft., Lowell, triple geared.
33 in. x 14 ft., Standard, triple geared.	52 in. x 22 ft., Fifield, triple geared.
42 in. x 14 ft., Schumacher & Boye,	60 in. x 24 ft., Putnam, triple geared.
quick change, latest pattern.	79 in., Niles, for driving wheels, dbl.
44 & 24 in. x 18 ft., Harrington, ex-	head.
tension gap bed.	89 in. x 18 ft., Bement, triple geared.

OTHER LATHES.

13 in. x 6 ft., Sebastian, comp. rest.	21 in. x 12 ft., Rahn.
14 in. x 6 ft., quick change, gd. head.	24 in. x 12 ft., Bradford.
15 in. x 6 ft., Young.	26 in. x 18 ft., Standard.
16 in. x 6 ft., quick change, gd. head.	28 in. x 14 ft., Schumacher & Boye,
16 in. x 7 ft., Flather.	quick change.
18 in. x 8 ft., Standard.	28 in. x 16 ft., Fay & Scott, heavy.

BIG PLANERS.

36x36 in. x 10 ft., Bement, 1 hd.	42x42 in. x 18 ft., Niles, 2 hds.
38x38 in. x 18 ft., Gray, 3 hds.	48x48 in. x 16 ft., Cincinnati, 4 hds.
42x34 in. x 8 ft., Pease, 1 hd.	54x54 in. x 16 ft., Bement, 2 hds.
42x42 in. x 12 ft., Whitcomb, 2 hds.	

OTHER PLANERS.

16x16 in. x 3 ft., Whitcomb, crank.	27x27 in. x 6 ft., Wheeler, 1 hd.
20x20 in. x 4 ft., Stover, 1 hd.	30x30 in. x 8 ft., Hewes & P., 1 hd.
24x24 in. x 6 ft., Gray, 1 hd.	30x30 in. x 10 ft., Niles, 2 hds.
26x26 in. x 6 ft., Ohio, 1 hd.	30x30 in. x 12 ft., Newark, 1 hd.

SHAPERS.

10 in. stroke, New Haven, crank.	20 in., back geared, automatic, verti-
12 in. stroke, Smith & Mills, crank.	cal feed.
16 in. stroke, Hendey, friction.	26 in., Standard, triple geared.

MILLING MACHINES AND SCREW MACHINES.

Miller, No. 2, plain, 24 in. fd., latest.	12 in. x 4 ft., Warner & Swasey, plain.
Miller, Oesterlein, universal, small	16 in. x 4 ft., Warner & Swasey, plain,
size, 20 in. feed.	for brass work.
24 in., Pratt & W., wire feed screw	20 in. x 7 ft., Bullard, comb. turret &
machine, turret, practically new.	chucking lathe, 24 in. hole in spdl.

DRILLS.

24 in., upright, sliding head.	84 in., radial, tapping attach't, latest.
60 in., radial, with tapping attach't.	96 in., radial, Gang Co., tapping att.

GRINDERS.

No. 2 Springfield, car wheel, dbl. hd.	No. 1 Cincinnati, universal cutter
No. 3 Brown & Sharpe, universal,	and tool grinder.
complete equipment, cap. 12x40 in.	

GEAR CUTTERS.

18 in., Brown & Sharpe, full auto-	36 in., Gould & Eberhardt, light pat-
matic, spur and bevel.	tern.
22 in., Gould & Eberhardt, full auto-	36 in., Gould & E., full automatic,
matic, spur and bevel.	spur and bevel, heavy pattern.

BOILER TOOLS.

Punch and shear, 15 in., wt. 5,500.	Riveting machine, hydraulic, 96 in.
Punch and shear, 30 in., wt. 15,500.	throat, Bement, with accumulator,
Punch and shear, 36 in., wt. 20,000.	pump, overhead crane and hoist.
Punch and shear, 50 in., wt. 33,000.	

MISCELLANEOUS.

Hammer, 350 lb., Beaudry, upright, power.
 Pulley borer, 60 in., Niles, upright.
 Pulley lathe, 60 in., Niles.
 Slotter, 12 in. stroke, Betts, hand feeds.
 Wheel press, hydraulic, 40 in., Sellers, 130 tons capacity.

SECOND-HAND MACHINERY

FOR SALE BY

Niles-Bement-Pond Company, . . . 111 Broadway, New York.

LATHES.

- | | |
|---|---|
| No. 4 Stark, bench, compound, slide rest. | 16 in. x 6 ft., Hendey, comp., taper and pan. |
| No. 4 Rivett, compound, slide rest. | 16 in. x 6 ft., Fitchburg, comp. and taper. |
| 8 in., precision, Rivett. | 16 in. x 6 ft., Putnam, motor drive, 110 v., new. |
| 13 in. x 5 ft., Pratt & Whitney, rise and fall and taper. | 16 in. x 6 ft., Putnam, motor drive, 220 v., new. |
| 14 in. x 6 ft., Putnam, compound and taper. | 18 in. x 8 ft., Putnam, motor drive, 110 v. |
| 14 in. x 6 ft., Prentiss, compound and taper. | 24 in. x 12 ft., Putnam, compound, motor, 110 v. |
| 14 in. x 6 ft., Pratt & W., comp. rest. | |
| 16 in. x 6 ft., Bradford, cp. and taper. | |

TURRET MACHINERY.

- | | |
|---|---|
| $\frac{1}{2}$ in. capacity, No. 60 Garvin, wire feed. | $\frac{1}{2}$ in. capacity, No. 3 Pratt & W., wire feed, friction head, power feed to turret. |
| $\frac{3}{4}$ in. capacity, No. 1 Pratt & W., wire feed. | $\frac{1}{2}$ in. capacity, No. 3 Pratt & W., wire feed, friction head, power feed to turret. |
| $\frac{1}{2}$ in. capacity, No. 2 Pratt & W., wire feed. | 2x24 in., Jones & Lamson, flat turret. |
| 1 in. capacity, No. 2 Warner & S., wire feed. | 2x24 in., Warner & Swasey, hollow hexagon turret. |
| $\frac{1}{2}$ in. capacity, No. 3 Bardons & O., wire feed, friction head, power feed to turret. | 24 in., Conradson, turret lathe. |
| | 24 in., Gisholt, turret lathe. |

PLANERS AND SHAPERS.

- | | |
|---|--|
| 16x16 in. x 4 ft., Pratt & W. planer. | 17x17 in. x 4 ft., Whitcomb planer. |
| 24x24 in. x 6 ft., Putnam, 110 v. motor, good as new. | 18 in., Cincinnati, dbl. head traverse shaper. |

DRILLS.

- | | |
|---|--|
| 13 in., motor drive, 110 v., friction. | 2 spindle, Henry & W., sensitive. |
| 28 in., Snyder, sil. hd., bk. gr., pr. fd. | 3 spindle, Sigourney, sensitive. |
| 30 in., Gould & E., slid'g head, back gear, power feed. | 4 spindle, Henry & W., sensitive. |
| 24 ft., Gang, radial. | 4 spindle, Sigourney, sensitive. |
| 5 ft., Niles, semi-universal, radial. | 4 spindle, Barr, type G, heavy, sens. |
| 5 ft., Niles, full universal, radial. | No. 11 P. & W., multiple spindle, adj. |
| 6 ft., Niles, semi-universal, radial. | No. 10 Pratt & W., type H, multiple spindle, 220 v. motor. |

MILLING MACHINES.

- | | |
|-----------------------------------|--------------------------------------|
| No. 3 Becker-B., new model, univ. | No. 5 Becker, with rotary. |
| No. 5-B, vertical, with rotary. | No. 13 P. & W., new model, profiler. |

MISCELLANEOUS.

- | | |
|--|---|
| Belt lacing machine, 6 in. | Turret borer, 36 in., No. 2 Brown & Sharpe. |
| Cold saw, No. 11 Higley. | Vertical mill, 37 in., Bullard. |
| Disc grinder, No. 3 Besley. | Vertical mill, 37 in., Niles. |
| Hammer, compact, 110 lb., Bradley. | Vertical mill, 51 in., Niles. |
| Keyseater, No. 2 Mitts & Merrill. | Vertical mill, 72 in., Niles. |
| Splitting shear, $\frac{1}{4}$ in. capacity, No. 2 Long & Alstatter. | Vertical mill, 21 ft., Niles. |

WANTED BY

M. L., Box 2, Station A, . . . Cincinnati, Ohio.

Band wheel, 96 inches diameter, 25 inches face, split or solid, to bore $\frac{1}{2}$ inches, and weighing 5,000 to 7,000 pounds.

Second-Hand Wood-Working Machinery.

A very complete list of second-hand wood-working machinery of all kinds will be found in the current issue of *The Machinery List*, a copy of which will be mailed free by the publisher on request. Address **A. H. Hitchcock, 626 Monadnock Bldg., Chicago.**

SECOND-HAND MACHINERY

FOR SALE BY

Wickes Brothers, . . . West & Cedar Sts., New York City.

PLANERS.

24x24 in. x 5 ft., Putnam.	36x36 in. x 10 ft., Bement-Miles.
30x30x81 in., Putnam.	42x35 in. x 7 ft., Bement, dbl. head.
34x34 in. x 8 ft., Pratt & Whitney.	42x40 in. x 9 ft., Bement, dbl. head.
36x36 in. x 10 ft., Powell.	54x54 in. x 10 ft., Powell.

LATHES.

14 in. x 6 ft., Flather, hollow spindle.	28 in. x 25 ft., engine lathe.
18 in. x 9 ft., Flather, hollow spindle.	39 in. x 21 ft., Fifield, triple geared.
24 in. x 12 ft., Ames, compound rest.	26x48 in. x 16 ft., McCabe, dbl. spindle.

MISCELLANEOUS.

Bending rolls, plate, 10 ft. (1 set.)	Pipe machine, Loew, 1 to 6 in.
Boring mill, 8 ft., Barr.	Punch & shear, comb., 36 in., Harold.
Drill, radial, 6 ft., Bausch.	Screw machine, No. 3 Pratt & W.,
Drive wheel lathe, 69 in., Bement.	with wire feed.

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By HOMER A. REID, Asso. Mem. Am. S. C. E.

Asst. Engineer Bureau of Buildings, New York City.

Contains more new, up-to-date information about concrete and reinforced concrete construction than any other book ever published. The data on tests, theory and practice are the latest, and embody much material never before available. Invaluable to anyone interested in Concrete. Price, \$5.00, postpaid.

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THE LODGE & SHIPLEY MACHINE TOOL CO.

Offer at a bargain the following tools, some of which are NOW IN USE in their own shops:

LATHES.

One 20 in. x 8 ft., Lodge & S.	One 30 in. x 10 ft., Lodge & S.
One 22 in. x 10 ft., Lodge & S.	One No. 1 high speed lathe, 10 ft.,
Two 24 in. x 10 ft., Lodge & S.	Lodge & Shipley.
One 24 in. x 12 ft., Lodge & S.	No. 3 rapid reduction, Lodge & S.

TURRET CHUCKING LATHES.

One 24 in. x 7 ft., Lodge & S.	One 44 in. x 9 ft., Lodge & Davis.
One 24 in. x 8 ft., Lodge & S.	

DRILLS.

One Andrews multiple drill, 11 spindle.

GEAR CUTTERS.

One No. 4 Brown & Sharpe, automatic spur gear.

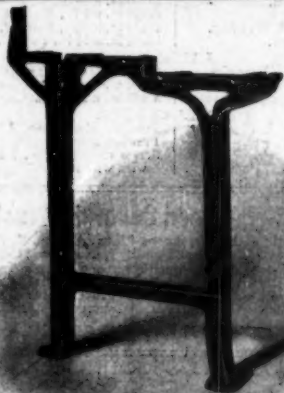
PLANERS.

One 36x36 in. x 24 ft., three head, Sellers.
One 36x36 in. x 24 ft., four head, Sellers.
One 36x36 in. x 24 ft., double head, Pond.

The Lodge & Shipley Machine Tool Co.

CINCINNATI, O., U. S. A.

Now's Your Chance



You've been putting it off till you could get time—fixing up your benches. Just get a supply of "New Britain" Legs now and you can settle the matter for all time.

Use our system, and future repairs are quickly, easily and cheaply made, for the bench is sectional, any part may be replaced without disturbing the rest, and the finished bench is solid as could be wished.

Darious styles for varied requirements

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